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SOUTH CAROLINA  
PUBLIC SERVICE  
COMMISSION

**DIRECT TESTIMONY OF**

**HUBERT C. YOUNG, III**

**ON BEHALF OF**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY**

**DOCKET NO. 2009-327-E**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.**

A. My name is Hubert C. Young, III. My business address is 601 Old Taylor Road, MC J37, Cayce, South Carolina 29033. I am employed by South Carolina Electric & Gas Company ("SCE&G" or "Company") where I am the Manager of Transmission Planning.

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS BACKGROUND.**

A. I am a graduate of Clemson University with a Bachelor of Science degree in Electrical and Computer Engineering. I am a registered Professional Engineer in the State of South Carolina.

I began working for SCE&G in 1975 and during my career with the Company I have held a number of positions in the Engineering Computer Support Department and Transmission Planning.

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1   **Q.    ARE YOU A MEMBER OF ANY INDUSTRY COMMITTEES FOR**  
2   **SYSTEM RELIABILITY ASSESSMENT OR PLANNING?**

3   A.       I am currently a member of the North American Electric Reliability  
4   Corporation ("NERC") Reliability Assessment Subcommittee, the NERC Standards  
5   Authorization Request Ballot Body, the SERC Reliability Corporation (formerly  
6   known as the Southeastern Electric Reliability Council and hereinafter referred to as  
7   "SERC") Engineering Committee, the SERC Engineering Committee Executive  
8   Committee, the SERC Reliability Review Subcommittee, the SERC Regional  
9   Studies Executive Committee, the VACAR/Southern/TVA/Entergy Executive  
10   Committee where I currently serve as chair, and the VACAR (Virginia/C Carolinas –  
11   includes SCE&G, Duke Energy Carolinas, Progress Energy Carolinas, Virginia  
12   Power, Santee Cooper, SEPA, NCEMC, and Fayetteville, NC) Executive  
13   Committee.

14         All of these committees are directly involved with setting reliability standards  
15   for the electric power industry or assessing the current and future capabilities of the  
16   integrated transmission grid in North America, the Southeast, and the  
17   Virginia/C Carolinas.

18   **Q.    PLEASE SUMMARIZE YOUR DUTIES AS MANAGER OF**  
19   **TRANSMISSION PLANNING AT SCE&G.**

20   A.       I oversee the planning and associated analyses of the SCE&G electric  
21   transmission system and all interconnection transmission facilities with  
22   neighboring utilities to ensure a reliable and cost effective delivery of electric

1 power to SCE&G customers while developing and maintaining strategically  
2 supportive infrastructure to sustain and further South Carolina's economic  
3 development and the Company's financial integrity.

4 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.**

5 A. The purpose of my testimony is to respond to the allegations made by  
6 Michelle and James Smith (collectively, the "Smiths") in their Complaint dated  
7 August 3, 2009, filed against SCE&G. Based upon my reading of the Complaint, it  
8 is my understanding that the Smiths disapprove of the route SCE&G selected to  
9 construct a 2.4 mile long, 115 kilovolt ("kV") transmission line ("Pritchardville 115  
10 kV Line"). My testimony will discuss the need for the new Pritchardville 115 kV  
11 Line and the process by which SCE&G selected the route for the new 115 kV line.

12 **Q. WHAT CRITERIA DOES SCE&G USE TO DETERMINE WHEN NEW**  
13 **TRANSMISSION FACILITIES ARE NEEDED?**

14 A. The Company uses external and internal criteria to guide its decision-  
15 making related to the development of new transmission facilities. Externally, our  
16 Company subscribes to the Transmission Planning Standards established by  
17 NERC and internally SCE&G adheres to its Long Range Planning Criteria. In  
18 accordance with these criteria, the SCE&G Transmission System is designed so  
19 that only short-time overloads, low voltages, and local loss of load will occur  
20 during certain contingencies. After appropriate switching and re-dispatching, all  
21 non-radial loads can again be served with reasonable voltages, and all facilities

1 can again operate within acceptable limits. A *sample* of contingencies considered  
2 includes:

- 3 1. Loss of any generator;
- 4 2. Loss of any transmission circuit operating at a voltage level of 115 kV or  
5 above;
- 6 3. Loss of any transmission transformer;
- 7 4. Loss of any electrical bus and associated facilities operating at a voltage  
8 level of 115 kV or above;
- 9 5. Loss of entire generating capacity in any one plant;
- 10 6. Loss of all circuits on a common structure;
- 11 7. Loss of any generating unit simultaneously with the loss of a single  
12 transmission line;
- 13 8. Loss of all components associated with a breaker failure; and
- 14 9. Loss of any generator, transmission circuit, or transmission transformer,  
15 followed by manual system adjustments, followed by the loss of another  
16 generator, transmission circuit, or transmission transformer.

17 **Q. WHY IS THE PRITCHARDVILLE 115 kV LINE NEEDED?**

18 A. The Towns of Bluffton and Hardeeville and the areas between, including  
19 Pritchardville, are currently experiencing significant population growth, and  
20 SCE&G's existing transmission lines and associated facilities are not adequate to  
21 reliably serve the load growth in these areas in the years to come.

1 SCE&G's existing Bluffton Substation provides electrical energy to an  
2 extensive geographical region that includes Bluffton and the surrounding area.  
3 Generally, the existing substation serves homes and businesses west of Bluffton to  
4 New River, including the Pritchardville community. The existing distribution  
5 system served from existing substations does not have adequate electrical capacity  
6 to reliably serve the projected increasing electrical growth in the area starting now  
7 and into the future. The service area has been partially "backed-up" from the  
8 Hardeeville Substation when it became necessary to do so, but load growth in the  
9 area served by the Hardeeville Substation has now prevented this backup service  
10 option.

11 SCE&G's new 115-23 kV substation, which will be located near the  
12 intersection of SC Highway 46 and Gibbet Road, will relieve load on the existing  
13 Bluffton and Hardeeville substations, allow new load to be served reliably, and  
14 ensure an adequate supply of electrical energy in the region. This new and  
15 needed substation will be connected to SCE&G's existing Hardeeville-Bluffton  
16 115 kV Line via the new Pritchardville 115 kV Line.

17 **Q. DID SCE&G CONSIDER OTHER POSSIBLE ALTERNATIVES TO THE**  
18 **NEW TRANSMISSION FACILITIES?**

19 A. Yes. SCE&G considered several alternatives ranging from taking no action  
20 to increasing the capacity of existing facilities. In summary, the Company  
21 determined that these alternatives would not provide its customers with long-term  
22 electrical system reliability.

1    **Q.    PLEASE DESCRIBE THE PROCESS BY WHICH SCE&G SELECTED**  
2    **THE ROUTE FOR THE PRITCHARDVILLE 115 kV LINE.**

3    A.            SCE&G conducted a comprehensive transmission line siting study to select  
4    the route for the Pritchardville 115 kV Line. As part of this study, SCE&G  
5    identified a 6.72 square mile geographic area through which any practical  
6    transmission route would pass. The Company collected and developed an array of  
7    environmental, land use, cultural resource, and aesthetic data that fully  
8    characterized the siting study area. From this information, SCE&G developed a  
9    suitability composite, which displayed areas of least constraint to routing, areas of  
10   highest constraint, and a full range of conditions in between. Using this  
11   composite, SCE&G identified seven potential routes for the Pritchardville 115 kV  
12   Line.

13   **Q.    DID SCE&G NOTIFY THE PUBLIC OF THE SEVEN POTENTIAL**  
14   **ROUTES FOR THE PRITCHARDVILLE 115 kV LINE?**

15   A.            Yes. The Company presented these seven routes to the public at a  
16   community workshop in August 2005 held at the Shults Park Community Center  
17   in Bluffton. Two weeks before the community workshop, SCE&G mailed  
18   personal invitations to each of the 480 landowners of record in the 6.72 square  
19   mile siting study area. SCE&G included a questionnaire with the invitation to  
20   give landowners an opportunity to provide information and comments regarding  
21   the proposed line routes. These questionnaires were also available at the  
22   workshop, and those landowners who could not attend the workshop were

1 encouraged to mail their comments to SCE&G for consideration. Moreover,  
2 SCE&G notified local land developers as well as local elected officials of the  
3 community workshop and sought their input concerning the proposed routes.

4 Twelve (12) people attended the workshop, and fifty-five (55)  
5 questionnaires were completed and returned to the Company. At the community  
6 workshop, SCE&G encouraged the attendees to (i) carefully examine the seven  
7 proposed routes that were displayed on an array of mapping including aerial  
8 photography; (ii) visit various "workstations" where complete information was  
9 available regarding all aspects of the project; and (iii) offer any information  
10 concerning the proposed routes.

11 **Q. DID SCE&G CONSIDER THE PUBLIC COMMENTS IN ITS ROUTE**  
12 **SELECTION PROCESS?**

13 Yes. Based on the information received from the public, local officials, and  
14 developers, the Company identified six additional routes bringing the total number  
15 of proposed routes to thirteen. These six additional routes represented minor  
16 deviations of the original proposed routes.

17 SCE&G also used the information gathered from the community workshop  
18 attendees and from the received community questionnaires to identify several  
19 categories that would be used to quantitatively and qualitatively compare the  
20 thirteen alternate routes against each other. These categories included, cultural  
21 and natural resource factors, current and future land use factors, public visibility  
22 factors, and residential visibility factors, to name a few.

1 **Q. WHAT ROUTE DID SCE&G SELECT TO CONSTRUCT THE 115 KV**  
2 **TRANSMISSION LINE?**

3 A. After analyzing a series of variables, including cost, the Company selected  
4 the route that minimizes the overall impact of the 115 kV Line. The selected route  
5 runs southwest along South Carolina Highway 170, then turns southeast and then  
6 southwest again towards Gibbet Road, and then parallels Gibbet Road in a  
7 southerly direction before turning east towards the new Pritchardville Substation,  
8 totaling 2.4 miles in length. Attached to my direct testimony as Exhibit No. \_\_\_\_  
9 (HYC-1) is a map depicting the selected route corridor.

10 **Q. DID SCE&G ADVISE THE PUBLIC OF THE ROUTE IT SELECTED?**

11 A. Yes, on October 10, 2005, SCE&G mailed a letter to all landowners in the  
12 siting study area and to numerous elected officials announcing the final route  
13 selection.

14 **Q. WHEN WILL THE NEW TRANSMISSION LINE BE BUILT?**

15 A. Construction of the Pritchardville 115 kV Line began on April 6, 2009, and  
16 SCE&G anticipates completing the new transmission line by the end of 2009.

17 **Q. IF THE ROUTE SELECTION WAS MADE IN OCTOBER 2005, WHY IS**  
18 **THE TRANSMISSION LINE NOT YET CONSTRUCTED?**

19 A. After the Company selected the route for the Pritchardville 115 kV Line,  
20 SCE&G focused its efforts on acquiring the necessary real property interests,  
21 including rights of way, and detailing and finalizing its engineering plans so as to  
22 make the least possible impact along the selected corridor.



1   **Q.    TURNING TO THE SMITHS' COMPLAINT, THEY ALLEGE THAT**  
2       **SCE&G "DID NOT CHOOSE THE MOST DIRECT ROUTE FOR THE**  
3       **LINES" AND INSTEAD "CHOSE A ZIG-ZAG PATTERN" RUNNING**  
4       **THROUGH LOWER INCOME NEIGHBORHOODS AND AVOIDING**  
5       **WEALTHIER NEIGHBORHOODS. DID SCE&G CHOOSE A ZIG-ZAG**  
6       **PATTERN OR CONSIDER THE ECONOMIC PROFILE OF THE**  
7       **AFFECTED NEIGHBORHOODS IN DECIDING WHERE TO ROUTE**  
8       **THE PRITCHARDVILLE 115 kV LINE?**

9   **A.**       Absolutely not. SCE&G chose the most direct route available based on  
10       current and future development and environmental impact factors. Further, the  
11       economic profile of the affected neighborhoods played no role whatsoever in the  
12       route selection process for the Pritchardville 115 kV Line. Notably, the route does  
13       not impact or cross the Smiths' property.

14   **Q.    PLEASE BRIEFLY RESPOND TO THE SMITHS' ALLEGATION THAT**  
15       **"SCE&G FAILED TO NOTIFY RESIDENTS IN THE NEIGHBORHOOD**  
16       **OF GIBBET ROAD WHO PURCHASED PROPERTY AFTER AUGUST**  
17       **18, 2005" OF THE SELECTION OF THE ROUTE RUNNING ALONG**  
18       **GIBBET ROAD.**

19   **A.**       As I testified earlier, SCE&G mailed a letter to all landowners in the siting  
20       study area announcing the final route selection. SCE&G is not aware of any law  
21       requiring the Company to continue to monitor real estate transactions in the  
22       general vicinity of the line construction and to ensure that any subsequent

1 purchasers of real estate have actual knowledge of the impending construction in  
2 SCE&G's own rights of way.

3 **Q. WAS SCE&G REQUIRED TO SEEK COMMISSION APPROVAL**  
4 **BEFORE COMMENCING CONSTRUCTION OF THE**  
5 **PRITCHARDVILLE 115 kV LINE?**

6 A. No. Pursuant to the Utility Facility Siting and Environmental Protection  
7 Act—specifically South Carolina Code Sections 58-33-20(2)(b) and 58-33-  
8 110(1)—and Commission Regulation 103-304, SCE&G is not required to obtain  
9 Commission approval of its route selection when constructing a transmission line  
10 with an operating voltage of less than 125 kV. The new Pritchardville  
11 transmission line is designed and will be operated at 115 kV, and therefore, under  
12 existing South Carolina law, SCE&G is not required to seek Commission approval  
13 prior to constructing the Pritchardville 115 kV Line.

14 **Q. HOW DO YOU RESPOND TO THE SMITHS' ASSERTION THAT**  
15 **SCE&G USED INTIMIDATION TACTICS IN SECURING RIGHTS OF**  
16 **WAY OVER WHICH TO CONSTRUCT THE PRITCHARDVILLE 115kV**  
17 **LINE?**

18 A. I reject the Smiths' baseless accusation. At no time whatsoever has  
19 SCE&G used intimidation tactics to secure rights of way over which to construct  
20 the Prichardville 115 kV line. Indeed, such intimidation tactics would be wholly  
21 inconsistent with our Company's core values—namely, to communicate openly  
22 and honesty and to always do what is right. Consistent with these core values,

1 SCE&G conducted an open route selection process in which it proactively  
2 solicited input from the public. Furthermore, the Company acquired the necessary  
3 rights of way through traditional—and most certainly legal—means.

4 **Q. IN THEIR COMPLAINT, THE SMITHS ASK THE COMMISSION TO**  
5 **REQUIRE SCE&G TO BURY THE PRITCHARDVILLE 115 kV LINE**  
6 **BECAUSE IN THEIR OPINION “ONE MILLION PER MILE COST**  
7 **WOULD BE MONEY WELL SPENT.” HOW DO YOU RESPOND TO**  
8 **THE SMITHS’ REQUEST?**

9 A. In my experience, the cost of burying a transmission line far exceeds one  
10 million dollars per mile. Therefore, burying the Pritchardville 115 kV Line  
11 underground would most assuredly not be money well spent. From the  
12 Company’s perspective, SCE&G is responsible for both least-cost planning and  
13 system reliability. Placing the new transmission line underground would assist  
14 neither objective as it would increase our customers’ electric bill without  
15 improving system reliability for its customers.

16 From the customers’ perspective, burying transmission lines significantly  
17 raises the costs of the lines as compared to the costs of overhead transmission lines  
18 due to higher design, installation, and maintenance costs. SCE&G would  
19 eventually seek recovery of these costs from its customers in our service area.  
20 Notably, the Smiths are not SCE&G customers, and therefore they are asking  
21 SCE&G customers to bear a significant cost burden for their aesthetic view of the  
22 line. Moreover, it typically takes more time to locate a failure, diagnose a problem

1 and repair an underground transmission line than it does a typical overhead  
2 transmission line; and once lines are placed underground, there is little to no  
3 flexibility to upgrade the facilities to respond to changes on the system. It is also  
4 important to note that this 115 kV line is the only source to the new Pritchardville  
5 substation and could be out of service for an extended period of time if installed  
6 underground. For the same reasons the Pritchardville substation is needed,  
7 SCE&G would not be able to switch the Prichardville load to the other substations  
8 in the area following a loss of this line. For these reasons, transmission lines are  
9 generally only placed underground when there is no other viable overhead corridor  
10 such as near airports or in heavily congested urban areas where there are tall  
11 buildings to navigate around and underground tunnels usually already exist for  
12 placing public facilities. Such is plainly not the case here, and spending additional  
13 money to bury the Pritchardville 115 kV Line is not in the best interests of  
14 SCE&G and its customers.

15 I would point out that SCE&G is not unsympathetic to the Smiths' concerns  
16 about the aesthetics of the new overhead transmission line. In an effort to  
17 minimize the visual effects of the new Pritchardville 115 kV Line, SCE&G,  
18 among other things, entered into an agreement with Palmetto Electric Cooperative,  
19 Inc. ("Palmetto"), whereby Palmetto agreed to bury an existing Palmetto electrical  
20 distribution line running along Gibbet Road. It should be noted that lower-voltage  
21 distribution lines are not as technically complex or as material-intensive as the  
22 higher-voltage transmission lines, and so burying the distribution lines is not as

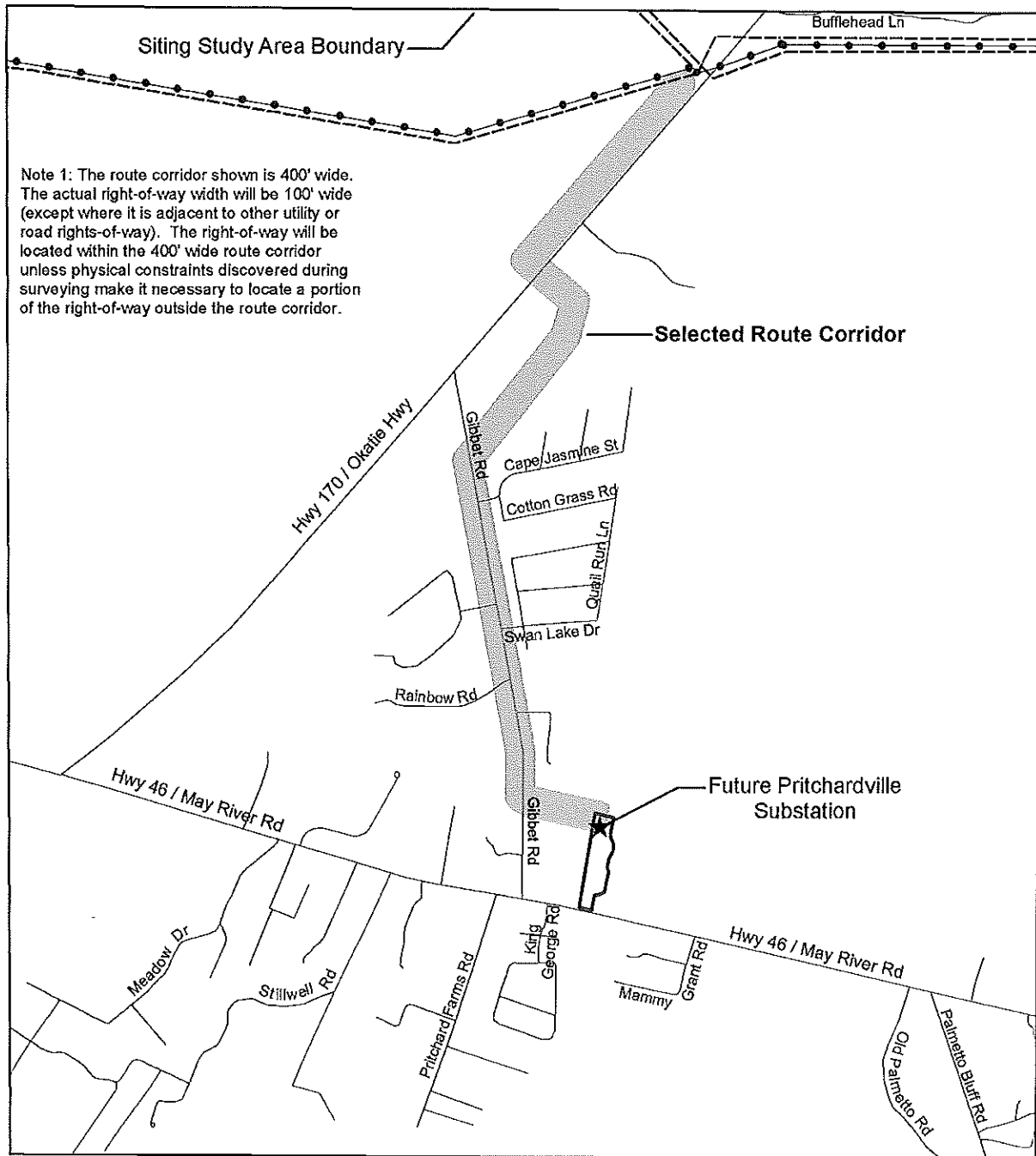
1 cost-prohibitive as burying transmission lines. The agreement with Palmetto also  
2 allowed SCE&G to minimize right-of-way needs.

3 **Q. WHAT ARE YOU ASKING THIS COMMISSION TO DO?**

4 A. SCE&G respectfully asks that the Commission dismiss Smiths' complaint  
5 with prejudice and deny the relief requested.

6 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

7 A. Yes.



## Siting Study Area Map Showing Selected Route Corridor Location

For The Future  
Pritchardville 115 kV Transmission Line

Beaufort County, South Carolina



0 2,000 4,000 Feet

### Legend

- Roads
- SCE&G Transmission Lines
- Santee-Cooper Transmission Lines
- Pritchardville Substation Lot
- Siting Study Area Boundary
- Selected Route Corridor